



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CLASS I PERMIT

COMPANY: *Arizona Public Service Company*
FACILITY: *Yucca Power Plant*
PERMIT #: *31876*
DATE ISSUED: **Draft**
EXPIRY DATE:

SUMMARY

This operating permit is issued to Arizona Public Service Company (APS), the Permittee, for operation of their Yucca Power Plant, located at 7522 South Somerton Avenue, Yuma, Yuma County Arizona. This is a renewal of Permit No. 1000107.

The Yucca Power Plant is jointly owned by APS and the Imperial Irrigation District. The Yucca Plant provides power to the grid on an as-needed basis. The facility operates five combustion turbines and one steam generating unit and has the capacity to generate 250,000 kilowatts. There is no air pollution control equipment installed on any of the turbine engines or the steam generator at the Yucca Plant. The Yucca Power Plant has two sources of fuel: natural gas and fuel oil. Natural gas is supplied by pipeline, and fuel oil is delivered to the plant by railroad tank cars or trucks.

All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code R18-2-101 (A.A.C). All terms and conditions of this permit are enforceable by the Administrator of the USEPA.

APS Yucca has the potential to emit more than 100 tons per year of sulfur dioxide, nitrogen oxides, carbon monoxide, and particulate matter less than 10 microns (PM₁₀) which makes this facility a major source. This permit is issued in accordance with Title V of the Clean Air Act, and Title 49, Chapter 3 of the Arizona Revised Statutes.

Table of Contents

ATTACHMENT “A”: GENERAL PROVISIONS	3
I. PERMIT EXPIRATION AND RENEWAL.....	3
II. COMPLIANCE WITH PERMIT CONDITIONS.....	3
III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE.....	3
IV. POSTING OF PERMIT.....	4
V. FEE PAYMENT	4
VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE	4
VII. COMPLIANCE CERTIFICATION	4
VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS	5
IX. INSPECTION AND ENTRY	5
X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD.....	6
XI. ACCIDENTAL RELEASE PROGRAM.....	6
XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING...6	
XIII. RECORD KEEPING REQUIREMENTS	10
XIV. REPORTING REQUIREMENTS	11
XV. DUTY TO PROVIDE INFORMATION.....	11
XVI. PERMIT AMENDMENT OR REVISION.....	11
XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION.....	12
XVIII. TESTING REQUIREMENTS	13
XIX. PROPERTY RIGHTS.....	14
XX. SEVERABILITY CLAUSE	14
XXI. PERMIT SHIELD.....	14
XXII. PROTECTION OF STRATOSPHERIC OZONE.....	14
 ATTACHMENT “B”: SPECIFIC CONDITIONS	15
I. FACILITY WIDE REQUIREMENTS	15
II. SIMPLE CYCLE COMBUSTION TURBINES AND STARTING DIESEL ENGINES 15	
III. STEAM ELECTRIC GENERATING UNIT.....	19
IV. AUXILIARY BOILER.....	24
V. COOLING TOWER	27
VI. FUGITIVE EMISSIONS REQUIREMENTS	Error! Bookmark not defined.
VII. MOBILE SOURCES	32
VIII. OTHER PERIODIC ACTIVITIES.....	32
 ATTACHMENT “C”: PHASE II ACID RAIN PROVISIONS	36
 ATTACHMENT “D”: EQUIPMENT LIST.....	37

ATTACHMENT “A”: GENERAL PROVISIONS

Air Quality Control Permit No. 31876
For
Arizona Public Service Company
Yucca Power Plant

I. PERMIT EXPIRATION AND RENEWAL

[ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

- A. This permit is valid for a period of five years from the date of issuance. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a and b]

- A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c, -321.A.1, and -321.A.2]

- A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- B. The permit shall be reopened and revised under any of the following circumstances
 - 1. Additional applicable requirements under the Clean Air Act become applicable to the Class I source. Such a reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless an application for renewal has been submitted pursuant to A.A.C. R18-2-322.B. Any permit revision required pursuant to this subparagraph shall comply with the provisions in A.A.C. R18-2-322 for permit renewal and shall reset the five-year permit term.
 - 2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.

3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
- C. Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under Condition III.B.1 above, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in Condition III.B.1 above shall not result in a resetting of the five-year permit term.

IV. POSTING OF PERMIT

[A.A.C. R18-2-315]

- A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:
1. Current permit number; or
 2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.
- B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT

[A.A.C. R18-2-306.A.9 and -326]

The Permittee shall pay fees to the Director pursuant to ARS § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A and B]

- A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.
- B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

- A. The Permittee shall submit a compliance certification to the Director semiannually which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the

current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;
 2. The Identification of the methods or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;
 3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent, based on the methods or means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take it into account for consideration in the compliance certification;
 4. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and
 5. Other facts the Director may require to determine the compliance status of the source.
- B. A progress report on all outstanding compliance schedules shall be submitted every six months beginning with six months after permit issuance.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

- A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
- B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM

[40 CFR Part 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting

[A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:
 - a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:
 - (1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.
 - (2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a. (1) Above.
 - b. The report shall contain the following information:
 - (1) Identity of each stack or other emission point where the excess emissions occurred;
 - (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
 - (3) Date, time and duration, or expected duration, of the excess emissions;
 - (4) Identity of the equipment from which the excess emissions emanated;
 - (5) Nature and cause of such emissions;
 - (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and

- (7) Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

[A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days after discovery of a non-emergency related deviation.

C. Emergency Provision

[A.A.C. R18-2-306.E]

1. An “emergency” means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was being properly operated at the time;
 - c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

[A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

- a. Promulgated pursuant to Sections 111 or 112 of the Act;
- b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;
- c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;
- d. Contained in A.A.C. R18-2-715.F; or
- e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

- a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;
- b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

- c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;
- d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
- e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;
- h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;
- i. All emissions monitoring systems were kept in operation if at all practicable; and
- j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records

3. Affirmative Defense for Startup and Shutdown

- a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:
 - (1) The excess emissions could not have been prevented through careful and prudent planning and design;
 - (2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;
 - (3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

- (4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
 - (5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
 - (6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;
 - (7) All emissions monitoring systems were kept in operation if at all practicable; and
 - (8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.
- b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions during Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

- A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:
1. The date, place as defined in the permit, and time of sampling or measurements;
 2. The date(s) analyses were performed;
 3. The name of the company or entity that performed the analyses;
 4. A description of the analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.

- B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
- C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

- A. Compliance certifications in accordance with Section VII of Attachment “A”.
- B. Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment “A”.
- C. Other reports required by any condition of Attachment “B”.

XV. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G and -306.A.8.e]

- A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.
- B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-318, -319, and -320]

The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

- A. Administrative Permit Amendment (A.A.C. R18-2-318);
- B. Minor Permit Revision (A.A.C. R18-2-319); and
- C. Significant Permit Revision (A.A.C. R18-2-320)

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

[A.A.C. R18-2-306.A.4 and -317]

- A. The Permittee may make changes at the permitted source without a permit revision if all of the following apply:
 - 1. The changes are not modifications under any provision of Title I of the Act or under ARS § 49-401.01(19);
 - 2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions;
 - 3. The changes do not violate any applicable requirements or trigger any additional applicable requirements;
 - 4. The changes satisfy all requirements for a minor permit revision under A.A.C. ~~R18-2-319.A~~; and
 - 5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements.
- B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of Conditions XVII.A and XVII.C of this Attachment.
- C. For each change under Conditions XVII.A and XVII.B above, a written notice by certified mail or hand delivery shall be received by the Director and the Administrator a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change, but must be provided as far in advance of the change, as possible or, if advance notification is not practicable, as soon after the change as possible.
- D. Each notification shall include:
 - 1. When the proposed change will occur;
 - 2. A description of the change;
 - 3. Any change in emissions of regulated air pollutants; and
 - 4. Any permit term or condition that is no longer applicable as a result of the change.
- E. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate to Conditions XVII.A and XVII.B above.
- F. Except as otherwise provided for in the permit, making a change from one alternative operating scenario to another as provided under A.A.C. R18-2-306.A.11 shall not require any prior notice under this Section.

- G. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, do not satisfy Condition XVII.A above.

XVIII. TESTING REQUIREMENTS

[A.A.C. R18-2-312]

- A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

- B. Operational Conditions during Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

- C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

- D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;
2. Test location(s);
3. Test method(s); and
4. Source operation and other parameters that may affect test results.

- E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platform(s);
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

- F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard.

For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XVI.B of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXII. PROTECTION OF STRATOSPHERIC OZONE

[40 CFR Part 82]

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

ATTACHMENT “B”: SPECIFIC CONDITIONS

Air Quality Control Permit No. 31876 For Arizona Public Service Company Yucca Power Plant

I. FACILITY WIDE REQUIREMENTS

- A. At all times, the Permittee shall have, on site or on-call, a person that is certified in EPA Reference Method 9.
[A.A.C.R18-2-306.A.3]
- B. At the time the compliance certifications required by Section VII of Attachment “A” are submitted, the Permittee shall submit reports of all monitoring activities required in Attachment “B” performed in the same six month period as applies to the compliance certification period.
[A.A.C.R18-2-306.A.5.a]

II. SIMPLE CYCLE COMBUSTION TURBINES AND STARTING DIESEL ENGINES

- A. Voluntarily Accepted Limitations
[A.A.C.R18-2-306.A.2 and 306.01]
1. The Permittee shall only combust the following as fuel in the following units:
- a. Gas Turbine Numbers 1, 2, and 3
- (1) Natural gas;
- (2) Fuel oil No.2; or
- (3) Co-firing natural gas and Fuel oil No.2
- b. Gas Turbine Numbers 4 and 21, and Starting Engines CT1, CT2, and CT21
- (1) Fuel oil No.2 only
2. Monitoring and Recordkeeping Requirements
- a. On a monthly basis, the Permittee shall maintain a 12- month rolling total of the hours that each combustion turbine is operated on natural gas.
- b. On a monthly basis, the Permittee shall maintain a 12- month rolling total of the hours that each combustion turbine is operated on fuel oil.
[A.A.C.R18-2-306.A.3.c]
- B. Particulate Matter and Opacity
1. Emission Limitation
- a. Permittee shall not emit or cause to be emitted into the atmosphere gases containing particulate matter in excess of the amount calculated by the following equation:

$$E = 1.02Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour.

[A.A.C.R18-2-719.C.1]

- b. For the purpose of this condition, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet.

[A.A.C.R18-2-719.B]

- c. Permittee shall not emit or cause to be emitted into the atmosphere gases exhibiting opacity greater than 40 percent for any period greater than 10 consecutive seconds. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

[A.A.C.R18-2-719.E]

2. Monitoring and Recordkeeping Requirements

[A.A.C.R18-2-719.I]

- a. The Permittee shall record daily the lower heating value of the fuel being fired in each simple cycle combustion turbine and starting diesel engine.

- b. Opacity Monitoring

[A.A.C.R18-2-306.A.3.c]

(1) Baseline Opacity

Within 90 days of the date from issuance of this permit, the Permittee shall conduct certified Method 9 performance tests, in accordance with Section XVIII of Attachment “A”, on the simple cycle combustion turbines and the starting diesel engines, while operating at normal representative working conditions, to establish a baseline opacity level for the stack. The average of a minimum of three opacity readings will be used to establish the baseline opacity for each stack. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.

(2) Frequency of Opacity Monitoring

A certified Method 9 observer shall conduct a visual survey of visible emissions from each simple cycle combustion turbine and starting diesel engine while operating at a normal representative working conditions. A minimum of one survey of visible emissions will be conducted on each simple cycle combustion engine for every 80 hours of operation on fuel oil, and every 720 hours of operation on natural gas.

- (a) If the observer, during the visual survey, determines that the opacity of the plume is equal or lower than the baseline opacity, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observations.

- (b) If the observer, during the visual survey, sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall take a six-minute Method 9 observation of the plume. If the six minute opacity of the plume is equal or less than the baseline opacity level, the observer shall make a record of the following:
 - i. Location, date, and time of the observation; and
 - ii. The result of the Method 9 observation.
- (c) If the six-minute opacity of the plume exceeds the baseline opacity level but is less than the applicable opacity standard, the Permittee shall adjust or repair the equipment to reduce the opacity to the baseline level. The observer shall make a record of the following:
 - i. Location, date, and time of the observation;
 - ii. The results of the Method 9 observation;
 - iii. Date and time when corrective action was taken; and
 - iv. Type of corrective action taken.
- (d) If the six-minute opacity of the plume exceeds the applicable opacity standard, the Permittee shall do the following:
 - i. Adjust or repair the equipment to reduce opacity to the baseline level;
 - ii. Report it as an excess emission for opacity; and
 - iii. Make a record of the following:
 - a) Location, date, and time of the observation;
 - b) The results of the Method 9 observation;
 - c) Date and time when adjustment and repair was performed; and
 - d) Type of corrective action taken.
- (3) If necessitated by the results of the visual survey, the Permittee may reestablish the baseline opacity level. Reestablishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

3. Performance Testing Requirements

Within one year of permit issuance, Permittee shall conduct or cause to be conducted a performance test for particulate matter on each simple cycle combustion turbine. Performance tests for particulate matter will be conducted in accordance with EPA Reference Method 5 as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.2 fuel oil.

[A.A.C.R18-2-312]

4. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-719.C.1, 719.B, 719.E, and 719.I.

[A.A.C.R18-2-325]

C. Nitrogen Oxide

Within 90 days after the rolling twelve-month total of hours of operation exceeds the number listed in the table below, Permittee shall conduct or cause to be conducted a performance test for nitrogen oxides.

Turbine No.	Hours to Trigger Testing Using Fuel Oil	Hours to Trigger Testing Using Natural Gas
1	808	1813
2	808	1813
3	304	682
4	304	N/A
21	808	N/A

Only one performance test is required for each turbine per fuel type, per calendar year. Performance testing for nitrogen oxides shall be conducted in accordance with EPA Reference Method 7E as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.2 fuel oil when the test is triggered by fuel oil usage, and natural gas when the test is triggered by natural gas usage.

[A.A.C.R18-2-312]

D. Sulfur Dioxide

1. Emission Limitation

- a. Permittee shall not emit or cause to be emitted into the atmosphere any gases containing sulfur dioxide in excess of 1.0 pound per million Btu heat input.

[A.A.C.R18-2-719.F]

- b. Permittee shall not burn high sulfur fuel oil in the simple cycle combustion turbine and the starting diesel engine. High sulfur fuel oil is defined as fuel oil with sulfur content equal to or exceeding 0.9% by weight.

[A.A.C.R18-2-719.H]

2. Monitoring and Recordkeeping Requirements

- a. The Permittee shall record daily the sulfur content of the fuel (sulfur weight percent) being fired in each simple cycle combustion turbine and starting diesel engine.

[A.A.C.R18-2-719.I]

- b. The Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in any simple cycle combustion turbine or starting diesel engine exceeds 0.8%.

[A.A.C.R18-2-719.J]

- c. The Permittee shall keep on record a copy of the fuel oil purchase specification sheet. This specification sheet shall include:

- (1) The sulfur content of the fuel oil (sulfur weight percent);
(2) The method used to determine the sulfur content of the fuel oil;

[A.A.C.R18-2-306.A.3.c]

3. Testing Requirements

- a. Within 90 days after the rolling twelve-month total of hours of operation on fuel oil exceed the number listed in the table below, the Permittee shall conduct or cause to be conducted a performance test for oxides of sulfur.

Turbine No.	Hours to Trigger Testing Using Fuel Oil
3	5306
4	5306

Only one performance test is required for each turbine per calendar year. Performance testing for oxides of sulfur shall be conducted in accordance with EPA Reference Method 6 as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.2 fuel oil.

[A.A.C.R18-2-312]

- b. To determine compliance with the sulfur limitation specified in Condition II.D.1.b of this Attachment, the Permittee shall use the following method:

ASTM Method D-4294-90 for determining the sulfur content of fuel oil.

[A.A.C.R18-2-719.K.1]

4. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-719.F, 719.H, 719.I, 719.J and 719.K.1.

[A.A.C.R18-2-325]

III. STEAM ELECTRIC GENERATING UNIT

A. Voluntarily Accepted Limitations

1. The Permittee shall combust only the following as fuel in the Steam Unit:

- a. Natural gas;
- b. Fuel oil No.4;
- c. Fuel oil No.5;
- d. Fuel oil No.6;
- e. Co-firing natural gas and fuel oil Nos. 4, 5, or 6.

[A.A.C.R18-2-306.A.2 and 306.01]

2. Monitoring and Recordkeeping Requirements

- a. On a monthly basis, the Permittee shall maintain a 12- month rolling total of the hours that the steam unit is operated on natural gas.
- b. On a monthly basis, the Permittee shall maintain a 12- month rolling total of the hours that the steam unit is operated on fuel oil.

[A.A.C.R18-2-306.A.3.c]

B. Particulate Matter and Opacity

1. Emission Limitation

- a. Permittee shall not emit or cause to be emitted into the atmosphere gases containing particulate matter in excess of the amount calculated by the following equation:

$$E = 1.02Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour.

[A.A.C.R18-2-703.C.1]

- b. For the purpose of this condition, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet.

[A.A.C.R18-2-703.B]

- c. Permittee shall not emit or cause to be emitted into the atmosphere gases exhibiting opacity greater than 20 percent.

[A.A.C.R18-2-702.B]

2. Monitoring and Recordkeeping Requirements

[A.A.C.R18-2-306.A.3.c]

- a. The Permittee shall record daily the lower heating value of the fuel being fired in the steam unit.
- b. Opacity Monitoring

[A.A.C.R18-2-306.A.3.c]

(1) Baseline Opacity

Within 90 days of the date from issuance of this permit, the Permittee shall conduct a certified Method 9 performance test, in accordance with Section XVIII of Attachment "A", on the Steam Unit while operating at normal representative working conditions, to establish a baseline opacity level for the stack. The average of a minimum of three opacity readings will be used to establish the baseline opacity for each stack. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.

(2) Frequency of Opacity Monitoring

A certified Method 9 observer shall conduct a visual survey of visible emissions from the Steam Unit while operating at a normal representative working conditions. A minimum of one survey of visible emissions will be conducted on the steam unit for every 80 hours of operation on fuel oil, and every 720 hours of operation on natural gas.

- (a) If the observer, during the visual survey, determines that the opacity of the plume is equal or lower than the baseline opacity, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observations.
- (b) If the observer, during the visual survey, sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall take a six-minute Method 9 observation of the plume. If the six minute opacity of the plume is equal or less than the baseline opacity level, the observer shall make a record of the following:
 - i. Location, date, and time of the observation; and
 - ii. The result of the Method 9 observation.
- (c) If the six-minute opacity of the plume exceeds the baseline opacity level but is less than the applicable opacity standard, the Permittee shall adjust or repair the equipment to reduce the opacity to the baseline level. The observer shall make a record of the following:
 - i. Location, date, and time of the observation;
 - ii. The results of the Method 9 observation;
 - iii. Date and time when corrective action was taken; and
 - iv. Type of corrective action taken.
- (d) If the six-minute opacity of the plume exceeds the applicable opacity standard, the Permittee shall do the following:

- i. Adjust or repair the equipment to reduce opacity to the baseline level;
- ii. Report it as an excess emission for opacity; and
- iii. Make a record of the following:
 - a) Location, date, and time of the observation;
 - b) The results of the Method 9 observation;
 - c) Date and time when adjustment and repair was performed; and
 - d) Type of corrective action taken.

- (3) If necessitated by the results of the visual survey, the Permittee may reestablish the baseline opacity level. Reestablishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

3. Performance Testing Requirements

- a. Within one year of permit issuance, Permittee shall conduct or cause to be conducted a performance test for particulate matter on the steam unit. Performance test for particulate matter will be conducted in accordance with EPA Reference Method 5 as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.6 fuel oil.
- b. Within 90 days after the rolling twelve-month total of hours of operation on fuel oil exceed 2789 hours, the Permittee shall conduct or cause to be conducted a performance test for particulate matter less than 10 microns on the steam unit. Only one performance test is required per calendar year. Performance tests for particulate matter less than 10 microns will be conducted in accordance with EPA Reference Method 201/202 as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.6 fuel oil.

[A.A.C.R18-2-312]

4. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-702.B, 703.B, and 703.C.1

[A.A.C.R18-2-325]

C. Nitrogen Oxide

Within 90 days after the rolling twelve-month total of hours of operation exceeds the number listed in the table below, Permittee shall conduct or cause to be conducted a performance test for nitrogen oxides.

Emission Unit	Hours to Trigger Testing Using Fuel Oil	Hours to Trigger Testing Using Natural Gas
Steam Unit	926	1044

Only one performance test is required for each fuel type, per calendar year. Performance testing for nitrogen oxides shall be conducted in accordance with EPA Reference Method 7E as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.6 fuel oil when the test is triggered by fuel oil usage and natural gas when the test is triggered by natural gas usage.

[A.A.C.R18-2-312]

D. Sulfur Dioxide

1. Emission Limitation

- a. The Permittee shall not emit or cause to be emitted into the atmosphere any gases containing sulfur dioxide in excess of 1.0 pound per million Btu heat input on a three hour average.

[A.A.C.R18-2-703.E.1]

- b. Permittee shall not burn high sulfur fuel oil as fuel unless the Permittee demonstrates to the satisfaction of the Director that the sufficient quantities of low sulfur oil are not available for use and that the Permittee has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in A.A.C. R18-2-202 will not be violated.

[A.A.C.R18-2-703.H]

2. Monitoring and Recordkeeping Requirements

[A.A.C.R18-2-306.A.3.c]

- a. The Permittee shall record daily the sulfur content of the fuel (sulfur weight percent) being fired in the steam unit.
- b. The Permittee shall keep on record a copy of the fuel oil purchase specification sheet. This specification sheet shall include:

- (1) The sulfur content of the fuel oil (sulfur weight percent);
- (2) The method used to determine the sulfur content of the fuel oil.

3. Testing Requirements

[A.A.C.R18-2-312]

Within 90 days after the rolling twelve-month total of hours of operation on fuel oil exceed 248 hours, Permittee shall conduct or cause to be conducted a performance test for oxides of sulfur on the steam unit. Only one performance test is required per calendar year. Performance testing for oxides of sulfur shall be conducted in accordance with EPA Reference Method 6 as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.6 fuel oil.

4. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-703.E.1, and 703.H.

[A.A.C.R18-2-325]

IV. AUXILIARY BOILER

A. Voluntarily Accepted Limitations

1. The Permittee shall combust only the following as fuel in the auxiliary boiler:

- a. Natural gas;
- b. Fuel oil No.4;
- c. Fuel oil No.5;
- d. Fuel oil No.6;
- e. Co-firing natural gas and fuel oil Nos. 4, 5, or 6.

[A.A.C.R18-2-306.A.2 and 306.01]

2. Monitoring and Recordkeeping Requirements

- a. On a monthly basis, the Permittee shall maintain a 12- month rolling total of the hours that the auxiliary boiler is operated on natural gas.
- b. On a monthly basis, the Permittee shall maintain a 12- month rolling total of the hours that the auxiliary boiler is operated on fuel oil.

[A.A.C.R18-2-306.A.3.c]

B. Particulate Matter and Opacity

1. Emission Limitation

- a. Permittee shall not emit or cause to be emitted into the atmosphere gases containing particulate matter in excess of the amount calculated by the following equation:

$$E = 1.02Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour.

[A.A.C.R18-2-724.C.1]

- b. For the purpose of this condition, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet.

[A.A.C.R18-2-724.B]

- c. Permittee shall not emit or cause to be emitted into the atmosphere gases exhibiting opacity greater than 15 percent.

[A.A.C.R18-2-724.J]

2. Monitoring and Recordkeeping Requirements

- a. The Permittee shall record daily the lower heating value of the fuel being fired in the auxiliary boiler.

- b. Opacity Monitoring

- (1) Baseline Opacity

Within 90 days of first use of the auxiliary boiler in this permit term, the Permittee shall conduct a certified Method 9 performance test, in accordance with Section XVIII of Attachment “A”, on the auxiliary boiler, while operating at normal representative working conditions, to establish a baseline opacity level for the stack. The average of a minimum of three opacity readings will be used to establish the baseline opacity for each stack. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.

- (2) Frequency of Opacity Monitoring

A certified Method 9 observer shall conduct a visual survey of visible emissions from the auxiliary boiler while operating at a normal representative working conditions. A minimum of one survey of visible emissions will be conducted on the auxiliary boiler for every 80 hours of operation on fuel oil, and every 720 hours of operation on natural gas.

- (a) If the observer, during the visual survey, determines that the opacity of the plume is equal or lower than the baseline opacity, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observations.

- (b) If the observer, during the visual survey, sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall take a six-minute Method 9 observation of the plume. If the six minute opacity of the plume is equal or less than the baseline opacity level, the observer shall make a record of the following:

- i. Location, date, and time of the observation; and
 - ii. The result of the Method 9 observation.

- (c) If the six-minute opacity of the plume exceeds the baseline opacity level but is less than the applicable opacity standard, the Permittee shall adjust or repair the equipment to reduce the opacity to the baseline level. The observer shall make a record of the following:

- i. Location, date, and time of the observation;
 - ii. The results of the Method 9 observation;
 - iii. Date and time when corrective action was taken; and

- iv. Type of corrective action taken.
- (d) If the six-minute opacity of the plume exceeds the applicable opacity standard, the Permittee shall do the following:
 - i. Adjust or repair the equipment to reduce opacity to the baseline level;
 - ii. Report it as an excess emission for opacity; and
 - iii. Make a record of the following:
 - a) Location, date, and time of the observation;
 - b) The results of the Method 9 observation;
 - c) Date and time when adjustment and repair was performed; and
 - d) Type of corrective action taken.

- (3) If necessitated by the results of the visual survey, the Permittee may reestablish the baseline opacity level. Reestablishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

3. Performance Testing Requirements

Within one year of first use of the auxiliary boiler in this permit term, Permittee shall conduct or cause to be conducted a performance test for particulate matter on the auxiliary boiler. Performance test for particulate matter will be conducted in accordance with EPA Reference Method 5 as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.6 fuel oil.

[A.A.C.R18-2-312]

4. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-724.B, 724.C.1, and 724.J.

[A.A.C.R18-2-325]

C. Nitrogen Oxide

Within 90 days after the rolling twelve-month total of hours of operation on fuel oil exceed 7624 hours, the Permittee shall conduct or cause to be conducted a performance test for nitrogen oxides on the auxiliary boiler. Only one performance test is required per calendar year. Performance testing for nitrogen oxides shall be conducted in accordance with EPA Reference Method 7E as described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.6 fuel oil.

[A.A.C.R18-2-312]

D. Sulfur Dioxide

1. Emission Limitation

- a. Permittee shall not emit or cause to be emitted into the atmosphere any gases containing sulfur dioxide in excess of 1.0 pound per million Btu heat input.

[A.A.C.R18-2-724.E]

- b. Permittee shall not burn high sulfur fuel oil as fuel unless the Permittee demonstrates to the satisfaction of the Director that the sufficient quantities of low sulfur oil are not available for use and that the Permittee has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in A.A.C. R18-2-202 will not be violated.

[A.A.C.R18-2-724.G]

2. Monitoring and Recordkeeping Requirements

[A.A.C.R18-2-306.A.3.c]

- a. The Permittee shall record daily the sulfur content of the fuel (sulfur weight percent) being fired in the auxiliary boiler.

- b. The Permittee shall keep on record a copy of the fuel oil purchase specification sheet. This specification sheet shall include:

- (1) The sulfur content of the fuel oil (sulfur weight percent);
(2) The method used to determine the sulfur content of the fuel oil.

3. Testing Requirements

- a. Within 90 days after the rolling twelve-month total of hours of operation on fuel oil exceed 2930 hours, Permittee shall conduct or cause to be conducted a performance test for oxides of sulfur on the auxiliary boiler. Only one performance test is required per calendar year. Performance testing for oxides of sulfur shall be conducted in accordance with EPA Reference Method 6 described in 40 CFR 60, Appendix A. The Performance test must be conducted using No.6 fuel oil.

[A.A.C.R18-2-312]

- b. To determine compliance with the sulfur limitation specified in Condition IV.D.1 of this Attachment, the Permittee shall use the following method:

ASTM Method D-4294-90 for determining the sulfur content of fuel oil.

[A.A.C.R18-2-312]

4. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-724.E, and 724.G.

[A.A.C.R18-2-325]

V. COOLING TOWER

A. Particulate Matter and Opacity

1. Emission Limitation

- a. Permittee shall not emit or cause to be emitted into the atmosphere particulate matter in excess of the amount calculated by the following equation:

$$E = 55.0P^{0.11} - 40$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour;
and

P = the process weight rate in tons-mass per hour.

[A.A.C.R18-2-730.A.1]

2. Opacity Monitoring

a. Baseline Opacity

Within 90 days of the date from issuance of this permit, the Permittee shall conduct a certified Method 9 performance test, in accordance with Section XVIII of Attachment "A", on the cooling tower, while operating at normal representative working conditions, to establish a baseline opacity level for the stack. The average of a minimum of three opacity readings will be used to establish the baseline opacity for each stack. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.

b. Frequency of Opacity Monitoring

A certified Method 9 observer shall conduct a visual survey of visible emissions from the cooling tower while operating at a normal representative working conditions. A minimum of one visual survey of visible emissions will be conducted for each 720 hours of operation of the cooling.

- (1) If the observer, during the visual survey, determines that the opacity of the plume is equal or lower than the baseline opacity, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observations.
- (2) If the observer, during the visual survey, sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall take a six-minute Method 9 observation of the plume. If the six minute opacity of the plume is equal or less than the baseline opacity level, the observer shall make a record of the following:
 - (a) Location, date, and time of the observation; and
 - (b) The result of the Method 9 observation.
- (3) If the six-minute opacity of the plume exceeds the baseline opacity level but is less than the applicable opacity standard, the Permittee shall adjust or repair the equipment to reduce the opacity to the baseline level. The observer shall make a record of the following:
 - (a) Location, date, and time of the observation;

- (b) The results of the Method 9 observation;
 - (c) Date and time when corrective action was taken; and
 - (d) Type of corrective action taken.
 - (4) If the six-minute opacity of the plume exceeds the applicable opacity standard, the Permittee shall do the following:
 - (a) Adjust or repair the equipment to reduce opacity to the baseline level;
 - (b) Report it as an excess emission for opacity; and
 - (c) Make a record of the following:
 - i. Location, date, and time of the observation;
 - ii. The results of the Method 9 observation;
 - iii. Date and time when adjustment and repair was performed; and
 - iv. Type of corrective action taken.
 - c. If necessitated by the results of the visual survey, the Permittee may reestablish the baseline opacity level. Reestablishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.
- 3. The Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent the opacity of which exceeds 20 percent, measured in accordance with EPA Reference Method 9.

[A.A.C.R18-2-702.B]
- 4. Where a stack, vent, or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee thereof to a degree that will adequately dilute, reduce, or eliminate the discharge of air pollution to adjoining property.

[A.A.C.R18-2-730.G]
- 5. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-702.B, 730.A.1 and 730.G.

[A.A.C.R18-2-325]

VI. FUTURE EMISSIONS REQUIREMENTS

A. Particulate Matter

1. Emission Limits/Standards

a. Open Areas, Roadways & Streets, Storage Piles, and Material Handling

The Permittee shall not cause, allow or permit visible emissions from open areas, roadways and streets, storage piles or material handling in excess of 40% opacity measured in accordance with the Arizona Testing Manual, Reference Method 9. Open fires permitted under A.A.C.R18-2-602 are exempt from this requirement.

[A.A.C.R18-2-612]

b. Open Burning

Except as provided in A.A.C.R18-2-602.C (1), C (4), and except when permitted to do so by either ADEQ or the local officer delegated the authority for issuance of open burning permits, the Permittee shall not conduct open burning.

[A.A.C.R18-2-602]

2. Air Pollution Control Measures

The Permittee shall employ the following reasonable precautions, or any other method approved by the Director, to prevent excessive amounts of particulate matter from becoming airborne:

a. Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means;

[A.A.C.R18-2-604.A]

b. Keep dust to a minimum from driveway, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, wetting or by paving, or by barring access to the property, or by other acceptable means:

[A.A.C.R18-2-604.B]

c. Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway is repaired, constructed, or reconstructed;

[A.A.C.R18-2-605.A]

d. Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust;

[A.A.C.R18-2-605.B]

e. Take reasonable precautions such as chemical stabilization, wetting, or covering when organic or inorganic dust producing material is being stacked, piled, or otherwise stored;

[A.A.C.R18-2-607.A]

f. Take reasonable precautions such as use of dust suppressants before the cleaning of site, roadway, or alley. Earth or other material shall be removed from paved

streets onto which earth or other material has been transported by trucking or earth moving equipment, erosions by water or by other means.

[A.A.C.R18-2-804.B]

3. Monitoring, Recordkeeping and Reporting Requirements

a. Open Areas, Roadways & Streets, Storage Piles and Material Handling

- (1) Permittee shall maintain appropriate records to demonstrate compliance with the reasonable precautions outlined in Section VI.A.2.a through IV.A.2.f above.

[A.A.C.R18-2-306.A.3.c]

(2) Quarterly Monitoring Requirements

- (a) A certified Method 9 observer shall conduct a quarterly survey of visible emissions from the non-point sources. The Permittee shall keep a record of the name of the observer, the date on which the observation/survey was conducted, and the results of the observation/survey.

- (b) If the observer sees a plume from a non-point source that on an instantaneous basis appears to exceed 40%, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume. If the six-minute opacity of the plume is less than 40%, the observer shall make a record of the following:

- i. Location, date, and time of the observation; and
- ii. The results of the Method 9 observation.

- (c) If the six-minute opacity of the plume exceeds 40%, then the Permittee shall do the following:

- i. Adjust or repair the controls or equipment to reduce opacity to below 40%; and
- ii. Report it as an excess emission under Section XII.A of Attachment" A".

[A.A.C.R18-2-306.A.3.c]

b. Open Burning

The monitoring requirements for Section VI.A.1.b of this Attachment may be complied with by maintaining copies of all open burning permits on file.

[A.A.C.R18-2-306.A.3.c]

4. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-602, -604.B, -605.A, -605B, -606, -607.A, -607.B, -612, and A.A.C.R18-2-804.B.

[A.A.C.R18-2-325]

VII. MOBILE SOURCES

A. Emission Limitations/Standards

1. Roadway and Site Cleaning Machinery

The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any Roadway and site cleaning machinery smoke or dust for any period of time greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt for the first ten minutes.

[A.A.C.R18-2-804.A]

2. Off Road Machinery

The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period of time greater than 10 consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

[A.A.C.R18-2-802.A]

B. Permit Shield

Compliance with the conditions of this part shall be deemed compliance with A.A.C.R18-2-801 and A.A.C.R18-2-802.A and A.A.C.R18-2-804.A.

[A.A.C.R18-2-325]

VIII. OTHER PERIODIC ACTIVITIES

A. Abrasive Blasting

1. Opacity of Visible Emissions

a. The Permittee shall not cause, allow, or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 20 percent opacity as measured by EPA Reference Method 9.

[A.A.C.R18-2-702.B]

b. The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

- (1) Wet blasting;
- (2) Effective enclosure with necessary dust collecting equipment; or
- (3) Any other method as approved by the Director.

[A.A.C.R18-2-726]

2. Monitoring, Recordkeeping, and Reporting Requirements

Each time an abrasive blasting project is conducted in an area open to the atmosphere, the Permittee shall log in ink or in an electronic format, a record of the following:

- a. The date the project was conducted;
- b. The duration of the project; and
- c. Type of control measures employed.

[A.A.C.R18-2-306.A.3.c]

3. Permit Shield

Compliance with conditions of this part shall be deemed compliance with A.A.C.R18-2-702.B and A.A.C.R18-2-726.

[A.A.C.R18-2-325]

B. Use of Paints

1. Opacity of Visible Emissions

Any visible plume or effluent from spray painting operations shall not have opacity greater than 20 percent, measured in accordance by EPA Reference Method 9.

[A.A.C.R18-2-702.B]

2. Volatile Organic Compounds

a. Emission Limitations/Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

- (1) The Permittee shall not conduct any spray painting operation without minimizing organic solvent emissions. Such operations other than architectural coating and spot painting shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.

[A.A.C.R18-2-727.A]

- (2) The Permittee shall not either:

- (a) Employ, apply, evaporate or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or
- (b) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C.R18-2-727.B]

- (3) For the purposes of parts (2) and (5) of this condition, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in paragraphs (a) through (c) of this subsection, or which exceeds any of the following percentages composition limitations, referred to the total volume of solvent:

- (a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturated hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: five percent
- (b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: eight percent
- (c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent

[A.A.C.R18-2-727.C]

- (4) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in subsection 3(a) through 3(c) of this condition, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C.R18-2-727.D]

- (5) The Permittee shall not dispose of by evaporation more than 1.5 gallons of photochemically reactive solvent in any one day.

[SIP Provision R9-3-525-C]

b. Monitoring, Recordkeeping, and Reporting Requirements

[A.A.C.R18-2-306.A.3.c]

- (1) Each time a spray painting project is conducted by a contractor, the Permittee shall log in ink or in an electronic format, a record of the following:
 - (a) The date the project was conducted;
 - (b) The duration of the project;
 - (c) Type of control measures employed; and
 - (d) Material Safety Data Sheets for all paints and solvents used in the project.
- (2) Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of part (1) above.

c. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C.R18-2-726, -727.A, -727.B, -727.C, -727.D and SIP Provisions R9-3-527.C.

[A.A.C.R18-2-325]

3. Demolition/Renovation

a. Emission Limitations/Standards

The Permittee shall comply with the applicable requirements of 40 CFR 61, Subpart M (National Emissions Standards for Hazardous Air Pollutants-Asbestos).

[A.A.C.R18-2-1101.A.8]

b. Monitoring, Recordkeeping, and Reporting Requirements

Permittee shall keep all records in a file. The required records include the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.

[A.A.C.R18-2-306.A.3.c]

4. Nonvehicle Air Conditioner Maintenance and/or Services

a. Emission Limitation/Standards

The Permittee shall comply with the applicable requirements of 40 CFR 82-Subpart F (Protection of Stratospheric ozone-Recycling and Emissions Reduction).

[40 CFR 82, Subpart F]

b. Monitoring, Recordkeeping, and Reporting Requirements

The Permittee shall keep all records required by the applicable requirements of 40 CFR 82-Subpart F in a file on site.

[A.A.C.R18-2-306.A.3.c]

ATTACHMENT “C”: PHASE II ACID RAIN PROVISIONS

Air Quality Control Permit No. 30345
For
Arizona Public Service Company
Yucca Power Plant

I. STATEMENT OF BASIS

Statutory and Regulatory Authorities: In accordance with Arizona Revised Statutes, Title 49, Chapter 3, Article 2, Section 426.N, and Titles IV and V of the Clean Air Act, the Arizona Department of Environmental Quality issues this Phase II Acid Rain Permit pursuant to Arizona Administrative Code, Title 18, Chapter 2, Article 3, Section 333 (A.A.C. R18-2-333), “Acid Rain”.

II. SO₂ ALLOWANCE[†] ALLOCATIONS AND NO_x REQUIREMENTS FOR EACH AFFECTED UNIT

		2004	2005	2006	2007	2008	2009	2010
Unit 1	SO ₂ allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	42*	42*	42*	42*	42*
	NO _x limit	This unit is not subject to a NO _x limit under 40 CFR Part 76.						

[†] As defined under 40 CFR §72.2, “Allowance” means an authorization by the Administrator under the Acid Rain Program to emit up to one ton of sulfur dioxide during or after a specified calendar year.

* The number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO₂ allowance allocations identified in this permit (See 40 CFR 72.84).

III. COMENTS, NOTES AND JUSTIFICATIONS

None.

IV. PERMIT APPLICATION

The Permittee, and any other owners or operators of the units at this facility, shall comply with the requirements contained in the attached acid rain permit application (OMB No. 2060-0258) signed by the Alternate Designated Representative Gregory D. Smith on 9/03/04.

ATTACHMENT “D”: EQUIPMENT LIST

Air Quality Control Permit No. 31876

For

Arizona Public Service Company

Yucca Power Plant

Description	Maximum Capacity	Make/ Model	Serial Number	Equipment ID	Date of Manufacture
Tangentially-fired steam electric generating unit	80 MW*	Combustion Engineering		Steam Unit 1	3/4/59
Simple cycle gas turbine generating unit	19.1 MW*	General Electric Frame 5	214363	Gas Turbine 1	7/1/71
Simple cycle gas turbine generating unit	19.1 MW*	General Electric Frame 5	214362	Gas Turbine 2	7/1/71
Simple cycle gas turbine generating unit	54.6 MW*	General Electric Frame 7	217812	Gas Turbine 3	6/20/73
Simple cycle gas turbine generating unit	53.9 MW*	General Electric Frame 7	237986	Gas Turbine 4	7/9/74
Simple cycle gas turbine generating unit	21.6 MW*	General Electric Frame 5	245107	Gas Turbine 21	12/28/78 (Commenced construction prior to October 3, 1977)
Gas turbine no. 1 startup engine	500 HP*	O' Donell-Quigley Model 7123-7000	12VA24361	Diesel Startup Engine CT 1	7/1/71
Gas turbine no. 2 startup engine	500 HP*	O' Donell-Quigley Model 7123-7000	12VA24360	Diesel Startup Engine CT 2	7/1/71
Gas turbine no. 21 startup engine	500 HP*	Massaro Detroit Diesel Allison Model 7123-7000	12VA05831	Diesel Startup Engine CT 21	12/28/78 (Commenced construction prior to October 3, 1977)
Boiler to heat fuel oil for	71.2 MMBtu/hr	Cleaver Brooks DL-68-400-	7869	Auxiliary Boiler	1974

Description	Maximum Capacity	Make/ Model	Serial Number	Equipment ID	Date of Manufacture
steam unit		CN-5			
Cooling tower	40,000 gpm	Foster Wheeler	--	Cooling Tower	--

Note: *Rated generating capacity of the unit

CONTINUOUS EMISSION MONITORS

Steam Unit	NOx Monitor	SO ₂ Monitor	O ₂ Monitor	Opacity Monitor	Flow Monitor
Steam unit 1	Rosemount NOx Monitor Serial No. 1000044 (primary) Serial No. 1000113 (backup)	n/a	Siemens Oxymat O ₂ Monitor Serial No. E1- 851 (primary) Serial No. E2- 825 (backup)	n/a	n/a